
Kontrolltest I/3 für 12 -17: Musterlösungen zu S. 50

Nr. 1

Textverständnis:

Gleichung:

Erbschaft: 315'000.-

Witwe 8x
2 Kinder 4x
5 Enkel x

$$\begin{aligned}8x + 2 \cdot 4x + 5 \cdot x &= 315'000 && / TU \\21x &= 315'000 && / :21 \\x &= 15'000\end{aligned}$$

also:

Witwe	120'000.-
Kinder je	60'000.-
<u>Enkel je</u>	<u>15'000.-</u>

Check!?!?

Nr. 2

a) $(18x - 36) : 6 = 14x + 28$ / TU
 $3x - 6 = 14x + 28$ / -6x
 $-6 = 11x + 28$ / -28
 $-34 = 11x$ / :11
 $-34/11 = x$

$$L = \left\{ -\frac{34}{11} \right\}$$

b) $(x + 17)(4x - 7) = 4x^2 - x + 2$ / TU
 $4x^2 - 7x + 68x - 119 = 4x^2 - x + 2$ / TU
 $4x^2 + 61x - 119 = 4x^2 - x + 2$ / - 4x²
 $61x - 119 = -x + 2$ / +x + 119
 $62x = 121$ / : 62
 $x = 121/62$

$$L = \left\{ \frac{121}{62} \right\}$$

Nr. 3

$$\begin{aligned}(15x - 13) \cdot (-10) &\leq x + 34x - 17(x - 1) && / TU \\-150x + 130 &\leq x + 34x - 17x + 17 && / TU \\-150x + 130 &\leq 18x + 17 && / +150x \\130 &\leq 168x + 17 && / -17 \\113 &\leq 168x && / :168 \\113/168 &\leq x\end{aligned}$$

$$L \geq \left\{ \frac{113}{168} \right\}$$

Nr. 4 a) $\frac{7y^5z}{14(-z)^4 y \cdot 7y} = \frac{7y^5z}{14z^4 y \cdot 7y} = \frac{y^3}{14z^3}$ b) $\frac{1}{(5a^2 + 4b)} \cdot \frac{(5a^2 + 4b)^2}{2b} = \frac{(5a^2 + 4b)}{2b}$

Nr. 5 a) $\frac{14}{5} + \frac{2}{7} = \frac{98}{35} + \frac{10}{35} = \frac{108}{35}$ b) $\frac{3}{35} - \frac{5}{28} = \frac{12}{140} - \frac{15}{140} = \frac{-3}{140}$

c) $\frac{-5a^2b \cdot a^3c \cdot 34}{17c \cdot 15ab} = \frac{-2a^4}{3}$ d) $\frac{13u}{8v^2} \cdot \frac{64u^3}{39v} = \frac{8u^4}{3v^3}$

Nr. 6 a) $\frac{6^3}{2^4} = \frac{6^3}{2 \cdot 2^3} = \frac{3^3}{2} = \frac{27}{2} = 13.5$ b) $\frac{10^5}{20^5} = \frac{1}{2^5} = \frac{1}{32}$ c) $\frac{18^6}{18^7} = \frac{1}{18}$
